

State of California
Department of Fish and Wildlife



Memorandum

Governor's Office of Planning & Research

Date: February 28, 2022

Feb 28 2022

To: Yolanda Rivas
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District 4; Environmental Planning
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STATE CLEARING HOUSE

DocuSigned by:

Erin Chappell

From: Erin Chappell, Regional Manager

California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: State Route – 37 Sears Point to Mare Island Improvement Project, Draft Environmental Impact Report, SCH No. 2020070226, Napa, Sonoma and Solano County

The California Department of Fish and Wildlife (CDFW) has reviewed the draft Environmental Impact Report (EIR) for State Route – 37 (SR-37) Sears Point to Mare Island Improvement Project (Project), pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹ CDFW is submitting comments on the draft EIR as a means to inform the California Department of Transportation (Caltrans) as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW is a Trustee Agency with responsibility under CEQA §15386 for commenting on projects that could impact fish, plant and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as the California Endangered Species Act (CESA) Permit, the Native Plant Protection Act Permit, the Lake and Streambed Alteration (LSA) Agreement and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT LOCATION AND DESCRIPTION

Caltrans, as the lead agency proposes improvements from Post Mile (PM) 2.3 in Sonoma County to PM 8.4 in Solano County along SR-37. The proposal includes four build alternatives and one no-build alternative. The Project occurs in Sonoma, Napa and Solano Counties continuously along SR-37.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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Build Alternative 1 proposes to convert the existing two-lane highway into a three-lane highway with a movable median barrier separating the two directions of traffic. The movable median barrier will provide two lanes during the peak traffic period in the peak direction and a single lane in the nonpeak direction. The additional lane will be a High-Occupancy-Vehicle Lane (HOV) lane. Illuminated advanced warning signs will be installed to notify drivers of the lane shifts. Widening of the Sonoma Creek Bridge is proposed for this alternative.

Build Alternative 2 proposes to use the existing highway shoulders to provide a traffic lane during the peak periods in the peak direction. During peak hours in the peak direction, the outside shoulder will act as an HOV lane, in the nonpeak direction the lane will act as a shoulder. The outside lane will be for HOV use during peak periods. No widening of the Sonoma Creek bridge and no bike lanes are proposed for this alternative.

Build Alternative 3A proposes to widen the highway to provide four lanes, two in each direction. All four lanes will be general-purpose lanes during nonpeak periods. The inside lane (left-side lane) will be changed for HOV use during peak periods. Twenty-five (25) vehicle pullouts will be constructed in this alternative and no bike lanes are proposed. Sonoma Creek Bridge will not be widened in this alternative.

Build Alternative 3B is similar to Build Alternative 3A with the following exceptions: The highway will be widened with 8-foot shoulders between SR-121 and Mare Island. The Sonoma Creek Bridge will be widened to accommodate an additional lane in each direction. The bridge will be widened on the south side, and the median and lanes shifted to align with the widened structure. A Type 85 barrier will be installed on the Sonoma Creek Bridge in the eastbound direction as bridge railing, and a tubular railing will be added to the existing bridge barrier in the westbound direction. Equipment and temporary staging roads will be necessary within the Project footprint at the bridge and pile install is necessary for the bridge abutments. New piles will be placed alongside Sonoma Creek, but outside of the navigable channel. A temporary trestle structure will be constructed alongside the existing bridge. The temporary trestle will be supported by driven steel piles. The temporary trestle will be removed after Sonoma Creek Bridge widening work is complete. Bicycle lanes are incorporated into this alternative.

Build Alternatives 3A and 3B also include additional infrastructure that would not be included in Build Alternatives 1 and 2. These include but are not limited to permanent high occupancy vehicle lanes, permanent signs as well as overhead lighting and informational lighting. Smart railroad upgrades and California Highway Patrol (CHP) observational and pullout areas are also included in these alternatives.

The estimated total cost is \$250 to \$400 million. The proposed schedule is to start construction in 2024 and complete construction in 2025.

All alternatives include widening of the bridge over Tolay Creek, impacts to the San Pablo Bay National Wildlife Refuge (Refuge) and the Napa-Sonoma Marshes Wildlife

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Area (Wildlife Area), tolling stations, outside safety barriers, various drainage and culvert improvements and slope reinforcement actions along the existing roadway with the exception of the no build alternative.

Lake and Streambed Alteration Agreement

The Project has the potential to impact stream resources including mainstems, tributaries, drainages and floodplains associated with varied aquatic resource types within the Biological Study Area (BSA) including but not limited to Sonoma Creek, Tolay Creek, the Mare Island Straight and the Napa-Sonoma Marsh Complex. If work is proposed that will impact the bed, bank, channel or riparian habitat, including the trimming or removal of trees and riparian vegetation, please be advised that the proposed Project may be subject to LSA notification. CDFW requires an LSA notification, pursuant to Fish and Game Code § 1600 et. seq., for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, bank or channel or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are generally subject to notification requirements.

Fish and Game Code § 5901

Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 1³/₈, 1¹/₂, 1⁷/₈, 2, 2¹/₄, 2¹/₂, 2³/₄, 3, 3¹/₂, 4, 4¹/₈, 4¹/₂, 4³/₄, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined as a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals (Fish and Game Code § 45).

California Endangered Species Act

Please be advised that a CESA Permit must be obtained if the Project has the potential to result in “take” of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (CEQA Guidelines §§ 21001 subd. (c), 21083, 15380, 15064 and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency’s FOC does not eliminate the Project proponent’s obligation to comply with Fish and Game Code, § 2080. More information on the CESA permitting process can be found on the CDFW website at <https://www.wildlife.ca.gov/Conservation/CESA>.

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Fully Protected Species

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except for collecting these species for necessary scientific research and relocation of a fully protected bird species for the protection of livestock. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP), 2081.7 or a Memorandum of Understanding for scientific research purposes. "Scientific Research" does not include an action taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.

COMMENTS AND RECOMMENDATIONS

CDFW would like to thank Caltrans for preparing the draft EIR. CDFW recommends the following updates, avoidance and minimization measures be imposed as conditions of Project approval by the lead agency, Caltrans, to ensure all Project-related impacts are reduced below a level of significance under CEQA.

COMMENT 1: Tidal Marsh Habitat, Sensitive Species and Natural Processes

Issue: The proposed draft EIR does not include a potential design alternative to allow natural sediment deposition, natural flooding and sea-level rise (SLR) adaptation mechanisms to occur within sensitive tidal-marsh habitat. The currently proposed alternatives are likely to affect wetlands, intertidal habitats and their vital wildlife and fisheries values. Species supported by the habitat are referenced in the Biological Resources section of the draft EIR and include species like Delta smelt (State Endangered, Federally Threatened), salt marsh harvest mouse (State Endangered, State Fully Protected and Federally Endangered) and California Ridgeway's rail (State Fully Protected, State Endangered and Federally Endangered). Furthermore, the draft EIR does not sufficiently evaluate or seek to reduce the cumulatively significant impacts to fish and wildlife resources associated with this Project and future projects for tidal marsh habitat migration and SLR considerations into the Project design.

Evidence the Impact Would be Significant: Section 15355 of the CEQA Guidelines states that cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. This Project represents a single Project that will be proceeded by additional projects surrounding the SR-37 corridor. Table 1-1 of the draft EIR (Page 1-7) indicates twelve (12) additional projects occurring within the SR-37 corridor. Page 1-6 and 1-13 of the draft EIR indicates the lead agency will rely on future projects not currently funded or programmed to address SLR within the SR-37. These continued actions without addressing SLR will further diminish fish and wildlife habitat values for State listed species habitat, State Fully Protected species habitat and

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other fish and wildlife resources. To assure adequate tidal circulation and sediment transport actions persist, setbacks in estuaries, tide gate removals and levee removals are all recommended management actions for North Coast estuaries (Titus, 1991).

In addition, the National Oceanographic and Atmospheric Administration (NOAA) *Coastal Species Multi-Species Plan* (NOAA, 2016) recommends the restoration of tidal marsh in diked and muted tidal marsh areas throughout the San Francisco Bay as actions vital to salmonid recovery. The continued fill and compaction of materials as proposed by the Project within the Napa-Sonoma complex does not align with this recovery strategy or align with policies focused on improving natural tidal and sediment transport processes. Consideration of an alternative design that incorporates elevated structures should be included to address these potential significant impacts.

The University of California, Berkeley, *Sea Level Rise Inundation Model* indicates a minimum SLR of 1.9 feet by 2050 and a minimum rise of 6.9 feet by 2100 throughout San Francisco Bay (CEC, 2018). *The State of California Sea-Level Rise Guidance/2018 Update* (COPC, 2018) provides a science-based methodology for state and local governments to analyze and assess the risks associated with SLR and incorporate sea-level rise into their planning, permitting and investment decisions. The *Caltrans Guidance on Incorporating Sea Level Rise* (2011) indicate the following key conditions for whether a project or project site should consider SLR:

- Is projected to be exposed or affected by future SLR and coastal hazards
- Has been or could be within or adjacent to an identified floodplain
- Has been or could be exposed to flooding or erosion from waves, tides, or rivers/creeks/streams
- Is currently in a location protected by constructed dikes, levees, bulkheads or other flood-control or shoreline protective structures
- Is on or close to a beach, estuary, lagoon or wetland
- Is on a coastal bluff susceptible to erosion
- Is reliant upon shallow wells for water supply

The proposed Project for SR-37 is exposed to future SLR; occurs within an identified floodplain, exposed to flooding or erosion from waves, tides, or rivers/creeks/streams; occurs in a location protected by constructed dikes, levees and is close to a lagoon, estuary and wetland. The proposed location already experiences significant flooding due to heavy storms at Mare Island, and Tubbs Island. The natural processes of intermittent flooding and tidal inland migration are critical strategies to promote tidal marsh SLR adaptation and tidal marsh expansion (Gailbraith, et. al., 2002) that will only increase over time if SLR models are accurate. Expansion of this highway without

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elevation of the structures will lead to future inundation by those natural processes and additional impacts to sensitive habitat from the need to place armored banks and scour protections. Based upon current SLR data modeling (COPC, 2018), reasonably foreseeable and State-adopted SLR scenarios (CEC, 2009), CDFW provides a fair argument supported by substantial evidence that this Project is likely to have cumulatively significant environmental impacts to fish and wildlife resources that are not adequately analyzed or reduced below a level of significance. Incorporation of the currently proposed avoidance and minimization measures does not adequately address those potentially significant impacts and may result in potentially inmitigable significant impacts to fish and wildlife resources if other design alternatives are not proposed that incorporate elevated structures and causeways.

Recommendation: CDFW recommends the following considerations and information be incorporated into the Project EIR:

Recommendation 1 - Design Coordination: Early and continued coordination with Habitat Conservation and the CDFW Conservation Engineering Branch is recommended to provide review and analysis of any proposed structures or Project elements with the potential to impact fish and wildlife resources. CDFW Conservation Engineering Branch should be provided engineered drawings and design specification planning sheets during the initial design process and prior to design selection. Re-initiation of design consultation should be at 30% design at minimum and throughout the permitting process for review and comment.

Recommendation 2 - Bridge and Stream Crossing References: CDFW recommends utilizing the design principles outlined in the California Salmonid Stream Habitat Restoration Manual, Part XII (CDFW, 2009) and NOAA Fisheries Service Guidelines for Salmonid Passage at Stream Crossings (NMFS, 2001) into stream crossing designs. CDFW strongly recommends incorporation of free-span bridge designs that are at minimum 1.25 times greater than the channel width. Such designs allow natural stream flow and sedimentation processes to continue for long term dynamic channel stability.

Recommendation 3 - Tidal Migration Design Analysis: CDFW recommends that bridges, roadway prisms, culverts and other drainage facilities should be designed to provide adequate channel or flow capacity based upon calculations using the most current and up to date SLR data (COPC, 2018). The analysis should also incorporate land subsidence and bathometric change factors for sediment chain supply and demand and SLR. In addition, the EIR should also analyze the potential for the roadway prism in its current state and future state to block the landward migration of tidal marsh habitat and intertidal habitat that special-status fish and wildlife species utilize.

COMMENT 2: Wildlife Connectivity

Issue: California wildlife is losing the ability to move and migrate as habitat conversion and built infrastructure disrupt species habitat and cut off migration corridors (Senate

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Bill 790; SB-790). This Project location occurs within an irreplaceable and essential connectivity corridor (BIOS; DS-2374). The current baseline condition of the SR-37 corridor represents a semi-permeable to permeable location for terrestrial wildlife connectivity. The proposal to construct alternatives that result in highway lane expansions have the potential to create a non-permeable barrier to terrestrial wildlife connectivity. The proposed increase in the number of travel lanes, proposal for extensive median barriers, edge of pavement barriers, vehicle pullouts and access roads will all significantly expand the width and complexity of the corridor. CDFW recommends the lead agency utilize terrestrial connectivity elements such as wildlife friendly culverts, directional fencing, strategically placed median barriers, under-crossings, over-crossings and elevated causeways into the Project as design features or conditions of approval.

Recommendation: CDFW recommends the following considerations and information be incorporated into the Project EIR:

Recommendation 1 - Wildlife Connectivity: The EIR should include the results of a wildlife movement study. CDFW recommends the study occur over a period of at least 12 months prior to the development of designs so terrestrial connectivity structures can be programmed into the Project. The study should occur within the limits of the proposed Project to develop a baseline understanding of the areas where wildlife movement, crossings and mortalities are most prevalent. The study should also be utilized to develop Project design to identify areas where wildlife crossing structure(s) installation(s) would result in the largest benefit to rare, threatened and endangered species as well as special-status species and non-special-status species for wildlife connectivity. Analysis during the 12-month study should be utilized to determine the type, size and number of structures that would be most beneficial to facilitate wildlife connectivity (new wildlife crossing culverts, modification of existing culverts, elevated causeways, etc.). Upon completion of the Project, wildlife connectivity structures and movement corridors should be studied for an additional 6 to 12 month period, at minimum, to determine the effectiveness of the designs. The protocol for the baseline survey, post-construction surveys, site selection criteria and design criteria for the development of the wildlife connectivity structures should follow the protocols outlined in; *The California Department of Transportation (Caltrans), Wildlife Crossings Design Manual* (Caltrans, 2009) and the *Federal Highway Administration Wildlife Crossing Structure Handbook – Design and Evaluation in North America, Publication No. FHWA-CFL/TD-11-003* (FHWA, 2011).

COMMENT 3: Bat Assessment and Avoidance

Issue: Page 2-177 notes the Tolay Creek and Sonoma Creek bridges have a moderate to high potential for bat roosting and that staining from bats is present. Page 2-182 of the draft EIR indicates no compensatory action will be conducted under any alternative for bats and the lead agency indicates bridge widening for all potential alternatives at Sonoma and Tolay Creek bridges.

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Recommendation: In order to avoid a potentially significant impacts to bats, new permanent roosting habitat within the bridges for Tolay and Sonoma Creek should be incorporated as design elements of the bridge itself. Temporary bat housing should also be provided to ensure displaced bats have adequate roosting habitat during construction. The design and placement of the bat structures should follow the guidance outlined in *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions Manual* (H.T. Harvey, 2019). The structures should be designed properly for each species known to occur within the area and in coordination with CDFW and other natural resource agencies.

Recommended Measure - Permanent and Temporary Bat Housing Design: The lead agency should design and construct permanent bat roost structures that can be incorporated into any elevated roadways, bridges, causeways or overpasses to avoid potentially significant impacts from permanent habitat loss to bat roosts. The structures should be designed in coordination with CDFW and include the appropriate baffle spacing or features to accommodate multiple species of bats as specified in the *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions Manual* (H.T. Harvey, 2019). The Project should achieve a no net loss in bat habitat as a result of Project completion and include design structures that can accommodate future population growth. The future growth should be based on the reproductive rates and estimated population growth rates of species known to persist within the Project limits based on peer reviewed scientific literature. Temporary bat boxes shall also be required during construction to provide displaced bats suitable roosting habitat. The temporary structures and monitoring plans for bat occupancy of the structures should also be designed in coordination with CDFW and other natural resource agencies.

COMMENT 4: California Clapper Rail/California Black Rail

Issue: The Project has the potential to result in potentially significant impacts to fish and wildlife resources that support California clapper rail also known as Ridgway's Rail (CCR), a State Endangered, Federally Endangered, and Fully Protected species and California black rail (CBR) a State Threatened and Fully Protected species. As lead agency, Caltrans must adopt the appropriate avoidance and minimization measures as conditions of approval to avoid take of a fully protected species in the EIR. If permanent impacts are proposed within CCR/CBR habitat it may not be feasible to incorporate conditions of approval that can reduce the impacts below a level of significance.

Evidence the impact would be significant: The Project proposes to conduct work within suitable habitat and within the predicted range of the CCR and CBR habitat (BIOS; DS-928, DS-2108, DS-2107). Multiple occurrences of the species are also present within the Project limits in the CNDDDB (BIOS; DS-45) that are considered extant.

Recommendation: CDFW recommends the following measures are incorporated into the Project EIR:

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Recommended Measure 1 - CCR/CBR Protocol Level Surveys: Protocol level surveys within and surrounding the Project area shall be conducted beginning between January 15 and February 1. A minimum of four surveys are required, each survey shall be 2 to 3 weeks apart and the final survey shall be completed by March or mid-April to ensure that no CCR/CBR are present during construction. Surveys shall be completed prior to the initiation of construction with three weeks remaining after completion of surveys and before Project initiation to submit results to CDFW for review. Protocol survey requirements shall be followed as recommended in the *U.S. Fish and Wildlife Service Clapper Rail Survey Protocol* (USFWS, 2015), *Secretive Marsh Bird Survey Protocol Comparison in San Francisco Bay* (Wood, 2014) and *USFWS Site-Specific Protocol for Monitoring Marsh Birds* (Wood et al., 2017).

Recommended Measure 2 - CCR/CBR Avoidance and Minimization: If CCR/CBR is detected during protocol surveys, no work activity shall occur from February 1 to August 31 during the CCR/CBR nesting season, within suitable CCR/CBR habitat. Suitable CCR/CBR habitat includes but is not limited to marshes, wetlands, streams and waterways, as well as associated upland habitat capable of providing upland refugia habitat as determined by a qualified biologist experienced with CCR/CBR.

Recommended Measure 3 - CCR/CBR Avoidance Buffers: If breeding CCR/CBR are determined to be present, activities will not occur within 700 feet of an identified calling center. If the intervening distance across a major slough channel or across a substantial barrier between the CCR/CBR calling center and any activity area is greater than 200 feet, work may proceed at that location within the breeding season in consultation with CDFW.

Recommended Measure 4 - CCR/CBR High Tide Restriction: To avoid the loss of individual CCR/CBR's, activities within or adjacent to CCR/CBR suitable habitat will not occur within 2 hours before or after extreme high tides (6.5 feet or above, as measured at the Golden Gate Bridge). This is when the marsh plain is inundated and protective cover for CCR/CBR is limited. Project activities could prevent CCR/CBR from reaching available cover.

COMMENT 5: Salt Marsh Harvest Mouse

Issue: The Project has the potential to result in potentially significant impacts to fish and wildlife resources that support salt marsh harvest mouse (SMHM) a State Fully Protected species and State and Federal Endangered species. As lead agency, Caltrans must adopt the appropriate avoidance and minimization measures as conditions of approval to avoid take of a fully protected species in the draft EIR.

Evidence the impact would be significant: The Project proposes to conduct work within suitable habitat and within the predicted range of SMHM (BIOS; DS-943, DS-2568). An occurrence of the species is also present within the Project limits in the California Natural Diversity Database (CNDDDB) (BIOS; DS-45) that is considered

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extant. If permanent impacts are proposed within SMHM habitat, it may not be feasible to incorporate conditions of approval that can reduce the impacts below a level of significance.

Recommendation: CDFW recommends incorporation of the following measures into the EIR:

Recommended Measure 1 - SMHM Suitable Habitat Analysis and Survey: A qualified biologist, experienced with SMHM shall conduct a suitable habitat analysis and focused surveys a minimum of one season prior to the initiation of construction. Focused surveys shall occur in areas proposed for work within three-hundred feet of tidal marsh habitat. Maps of suitable habitat and any detections of SMHM should be included in the draft EIR.

Recommended Measure 2 - Construction Monitoring and Survey: A qualified biologist, experienced with SMHM shall conduct focused surveys a minimum of seven days prior to the initiation of construction including the creation of staging and access roads within three-hundred feet of tidal marsh habitat. Any vegetation within suitable habitat shall be cleared with hand-tools under supervision of a qualified biologist. Heavy equipment such as tractors or excavators working in SMHM habitat may proceed after the initial hand clearing has occurred and the biologist has given approval to proceed. A biologist shall be present on-site at all times when work is occurring in SMHM habitat. If a mouse of any species is observed within the Project area, work within the vicinity should be halted immediately by the qualified biologist and the mouse should be allowed to leave the work area. SMHM may not be handled or captured at any time during site preparation or Project activities. If an injured or dead SMHM is discovered at the Project sites, consultation with CDFW is required immediately.

COMMENT 6: Western Monarch Butterfly Roosting and Over-Wintering Sites

Issue: The Project is proposed to occur within known overwintering sites for western monarch butterfly populations according to findings in CNDDDB (BIOS; DS-45) and The Western Monarch Count Organization. An overwintering site has specifically been identified at latitude 38.153405, longitude -122.446464 (Site ID 3137, <https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/>). Monarch butterfly modeling habitat mapping also indicates potential habitat from Reclamation Road east to the Project limit at Sears Point (BIOS; DS-2861). The draft EIR did not discuss western monarch butterfly or the potential roosting and overwintering site.

Evidence the Impact would be Significant: The western monarch has been identified in the California's State Wildlife Action Plan as a Species of Greatest Conservation Need. Western monarch butterfly populations declined by more than 99 percent since the 1980s. An estimated 4.5 million monarchs overwintered on the California coast in the 1980s, whereas in 2020, the population estimate for migratory overwintering monarchs was less than 2,000 butterflies. This extreme population decline is due to

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multiple stressors across the monarch's range, including the loss and degradation of overwintering groves; pesticide use, loss of breeding and migratory habitat; climate change; parasites and disease. In recent years, monarchs have not clustered in the southern-most part of their overwintering range, and they are likely year-round residents in some areas of the coast (Xerxes, 2021; <https://xerxes.org/monarchs>). This drastic decline of the species makes each known roosting or overwintering site critical to the recovery of the species. Assembly Bill-559 (AB-559) promotes initiatives to protect and restore monarch habitat within transportation corridors, such as SR-37 and encourage public entities such as Caltrans to create, enhance and restore monarch butterfly habitat throughout its native range in cooperation with CDFW.

Recommendations: CDFW recommends a monarch butterfly conservation plan be developed as part of the Project. The EIR should incorporate the following protective measures for western monarch butterflies incorporation into a monarch butterfly conservation plan:

Recommendations - Protect, Manage, Enhance and Restore Monarch Butterfly Overwintering Sites:

- Conduct overwintering grove habitat assessment(s) and develop and implement long-term grove management plans (<https://www.westernmonarchcount.org/>). Management plan actions for groves may include, but are not limited to:
- Enhance roosting trees within overwintering groves and within 1/2 mile of groves by planting native insecticide-free trees (e.g., Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), coast redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga menziesii*), Torrey pine (*Pinus torreyana*), western sycamore (*Platanus racemosa*), Bishop pine (*Pinus radiata*) and others, as appropriate for location).
- Avoid the removal of trees or shrubs within 1/2 mile of overwintering groves, except for specific grove management purposes, and/or for human health and safety concerns. The maintenance of trees and shrubs within a 1/2 mile of these sites provides a buffer to preserve the microclimate conditions of the winter habitat.
- Conduct management activities in groves from March 16 to September 14, in coordination with a monarch biologist, such as tree trimming, mowing, burning and grazing in monarch overwintering habitat outside of the estimated timeframe when monarchs are likely present.
- Enhance native, insecticide-free nectar sources by planting fall/winter blooming forbs or shrubs within overwintering groves and within one mile of the groves (https://xerxes.org/sites/default/files/publications/18-003_02_Monarch-Nectar-Plant-Lists-FS_web%20-%20Jessa%20Kay%20Cruz.pdf).

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- Avoid the use pesticides within one mile of overwintering groves, particularly when monarchs may be present. If pesticides are used, then conduct applications from March 16 to September 14, when possible. Avoid the use of neonicotinoids or other systemic insecticides, including coated seeds, any time of the year in monarch habitat due to their ecosystem persistence, systemic nature, and toxicity. Avoid the use of soil fumigants.
- Consider non-chemical weed control techniques, when possible (<https://www.cal-ipc.org/resources/library/publications/non-chem/>).
- Remove tropical milkweed that is detected, and replace it with native, insecticide-free nectar plants suitable for the location (https://xerces.org/sites/default/files/publications/18-003_02_Monarch-Nectar-Plant-Lists-FS_web%20-%20Jessa%20Kay%20Cruz.pdf).
- To assist in maintaining normal migration behavior, do not plant any type of milkweed within five miles of the coast from Mendocino County south through Santa Barbara County, and within one mile of the coast south of Santa Barbara County, unless the species of milkweed is native to the local area.
- Conduct grove monitoring for butterflies during the Western Monarch Counts each fall and winter. When possible, report when monarchs arrive and depart the groves each year (<https://www.westernmonarchcount.org/>).

COMMENT 7: Light Impact Analysis and Discussion

Issue: A significant portion of the proposed Project within the SR-37 corridor does not contain any overhead or artificial light sources. The various alternatives propose different types and levels of artificial light installation. CDFW strongly recommends that no new or replacement artificial lighting is installed. Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impacts through substantial degradation of the quality of the environment. Artificial light pollution also has the potential to significantly and adversely affect biological resources and the habitat that supports them. Unlike the natural brightness created by the monthly cycle of the moon, the permanent and continuously powered lighting fixtures create an unnatural light regime that produces a constant light output. Continuous light output for 365 days a year can also have cumulatively significant impacts on fish and wildlife populations.

Evidence the impact would be significant: Artificial night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Artificial night lighting has also been found to impact juvenile salmonid overwintering success by delaying the emergence of salmonids from benthic refugia and reducing their ability to feed during the winter (Contor and Griffith 1995). For

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nocturnally migrating birds, direct mortality as a result of collisions with anthropogenic structures due to attraction to light (Gauthreux, 2006) is another direct effect of artificial light pollution. There are also more subtle effects, such as disrupted orientation (Poot et al. 2008) and changes in habitat selection (McLaren et al. 2018). There is also growing evidence that light pollution alters behavior at regional scales, with migrants occupying urban centers at higher-than-expected rates as a function of urban illumination (La Sorte et al. 2021). While artificial light pollution can act as an attractant at both regional (La Sorte et al. 2021) and local (Van Doren et al. 2017) scales, there is also evidence of migrating birds avoiding strongly lit areas when selecting critical resting sites needed to rebuild energy stores (McLaren et al. 2018).

Recommendation: Due to the high potential for songbirds, marsh-birds, migratory birds, salmonids and nocturnally active State listed and special-status species, CDFW recommends no lighting is installed as part of or as a result of Project in order to avoid potentially significant impacts to biological resources from artificial lighting.

CDFW recommends the following measures be included in the EIR to avoid potentially significant impacts to fish and wildlife resources including migratory birds, marsh birds, state listed species and fully protected species and the habitat that sustains them:

Recommended Measure 1 – Habitat Compensation: For Project elements that require artificial lighting, compensatory mitigation is provided for all areas of new or increased light output.

Recommended Measure 2 – Light Output Analysis: Isolux Diagrams that note current light levels present during pre-Project conditions and the predicted Project light levels that will be created upon completion of the Project shall be included in the EIR. If an increase in light output from current levels to the projected future levels is evident additional avoidance, minimization or mitigation shall be developed in coordination with the natural resource agencies to offset indirect impacts to special-status species. Within 60 days of Project completion, the lead agency shall conduct a ground survey that compares projected future light levels with actual light levels achieved upon completion of the Project through comparison of Isolux diagrams. If an increase from the projected levels to the actual levels is discovered additional avoidance, minimization or mitigation measures may also be required in coordination with the natural resource agencies. This analysis should be conducted across all potential alternatives and compared in table and map format.

Recommended Measure 3 – Light Output Limits: All LED's or bulbs installed as a result of the Project shall be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum.

Recommended Measure 4 – Vehicle Light Barriers: Solid barriers at a minimum height of 3.5 feet should be installed in areas where they have the potential to reduce illumination from overhead lights and from vehicle lights into areas outside of the

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roadway. Barriers should only be utilized as a light pollution minimization measure if they do not create a significant barrier to wildlife movement. Additional barrier types should be employed when feasible, such as privacy slats into the spacing of cyclone fencing to create light barriers for areas outside the roadway.

Recommended Measure 5 – Reflective Signs and Road Striping: Retro-reflectivity of signs and road striping should be implemented throughout the Project to reduce the need for electrical lighting.

Recommended Measure 6 – Light Pole Modifications and Shielding: All new or replacement light poles or sources of illumination shall be installed with the appropriate shielding to avoid excessive light pollution into natural landscapes or aquatic habitat within the Project corridor in coordination with CDFW. In addition, the light pole arm length and mast heights should be modified to site-specific conditions to reduce excessive light spillage into natural landscapes or aquatic habitat within the Project corridor. In areas with sensitive natural landscapes or aquatic habitat the lead agency should also analyze and determine if placing the light poles at non-standard intervals has the potential to further reduce the potential for excessive light pollution caused by decreasing the number of light output sources in sensitive areas.

COMMENT 8: Advanced Mitigation Program

Issue: The EIR should specify if the Project will take advantage of long-range, advanced mitigation strategies. The EIR should be updated to incorporate facets of the CDFW and Caltrans Advanced Mitigation Program. This Project as proposed has the potential to impact up to 7.55 acres of habitat for fish and wildlife resources, add up to 12.17 acres of impervious surface, permanently impact 4.28 permanent wetlands and other waters and temporarily impact 10.35 acres of wetlands and other waters.

Recommendation: Advanced mitigation strategies should be incorporated to ensure timely acquisition of any required mitigation. The Legislative Report from Assembly Bill 1282 Transportation Permitting Task Force (<https://calsta.ca.gov/-/media/calsta-media/documents/ab-1282-task-force-2019-report-remediated-101320-with-appendices.pdf>) states: “Historically, transportation agencies have implemented mitigation on a project-by-project basis once funding is approved for the final stages of a project and environmental permits are obtained. Advance mitigation presents an innovative opportunity for many transportation projects, with potentially significant reductions of time and costs associated with providing necessary mitigation. It can be applied in highway, rail, and transit projects in both urban and rural areas.” In addition, the Statewide Advanced Mitigation Initiative(<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/sami-a11y.pdf>) 2016 Memorandum of Understanding between Caltrans, CDFW, the California State Water Resources Control Board, the U.S. Army Corps, the U.S. Environmental Protection Agency, USFWS, and National Oceanic and Atmospheric Administration states:

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- Considering biological conservation and mitigation needs early in a project's timeline, prior to project design and development, can reduce costs and allow natural resources conservation and mitigation to enhance the sustainability of those natural resource systems.
- Long-range advance mitigation and conservation planning would allow transportation agencies to anticipate potential mitigation and conservation needs for planned transportation projects and to meet those needs in a more timely and cost-efficient way.
- Advance mitigation and conservation planning would allow mitigation funding for transportation projects to be directed to agreed-upon conservation priorities and would allow for the establishment, enhancement, preservation, and/or restoration, as appropriate, of habitat that enhance the sustainability of natural systems by protecting or restoring connectivity of natural communities consistent with, but not limited to the Endangered Species Act § 7(a)(1), California Fish and Game Code §2055, Rivers and Harbors Act §10, and Clean Water Act §404 and §401.

Advanced Mitigation Program: CDFW currently has three programs that can accommodate advance mitigation planning: Conservation and Mitigation Banking, Natural Community Conservation Planning (NCCP), and Regional Conservation Investment Strategies (RCIS). CDFW staff are available to discuss these programs.

CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California's fish and wildlife resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Robert Stanley, Senior Environmental Scientist (Specialist), at (707) 339-6534 or Robert.Stanley@wildlife.ca.gov; or Wesley Stokes, Senior Environmental Scientist (Supervisory), at (707) 339-6066 or Wesley.Stokes@wildlife.ca.gov.

cc: State Clearinghouse #2020070226

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